DETAILED ACTION

1. Applicants' amendment filed 2/23/2011 overcomes the rejections of record, however, the new grounds of rejection as set forth below are necessitated by applicants' amendment and therefore the following action is **final.**

2. Claims 1, 5, 7-15, 18-22, 25-27, and 29-38 are pending in this action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 7-13, 15, 18-22, 25- 27, 29 -38 are rejected under 35 U.S.C. 103 (a) as being unpatentable over **Forkner et al. USPN 2878127** in view of Wiggett et al.(GB 2078082).

6. Regarding claims 1, 7-13, 15, 18-22, 25, 26, 27, and 29- 38, Forkner et al. teaches a method of manufacturing aqueous sol/stable gel or gelly (col 1 lines 50-52) to apply upon an icing, or like surface e.g. on a solid material (col 1 lines 25-27; col 2 lines 70-72) which contain calcium and low methoxy pectin to form solid gel upon application (col 1 lines 40-48) under acidic pH condition (col 2 lines 30-36; in line 35 e.g. 'acidity'). Forkner et al. also teaches that the product possess the advantage of attractive appearance, ease of cutting with a knife to meet claim 26 and ease of packaging (col 1 lines 70-73 and col 2 lines 1-3) because it is relatively stable against setting up in the form of a gel (col 2 lines 48-50). It is obvious that packaged product as 'aqueous sol' can be used later for the application of coating indicates that the product is in liquid form and can be applied without a heating step as claimed in amended claim 1.

It is therefore, also obvious that the product is liquid at room temperature meets the claimed limitation of below 35 degree C. and "ready-to-use" and "cold gelling" as presently claimed invention.

Forkner et al. teaches about glaze composition contains calcium reactive low methoxylated (no more than 7%) pectin (col 1, line 43; col 2 lines 30-44) and upon contact with the material containing calcium (col 2 lines 53-55, 70-73; and col 3 lines 1-

10), the sol sets up into the form of a gel (col 3 lines 10-12) and therefore it meets the claimed limitation "wherein the extra amount of calcium are naturally present in the food product. It is obvious that the sol is liquid at room temperature because pectin sol can not jellify without the presence of sufficient calcium.

Forkner et al. does not teach (a) degree of amidation, and (b) “naturally present calcium”.

.Wiggett et al. teach about a fruit composition comprising 10-50% fruit (abstract), soluble calcium chloride to promote gelation (p2, lines 56-60), and gelling agent that is low methoxy-amidated pectin with degree of amidation of 15-30% (claim 11).

Wiggett et al. also teach about the glaze composition further comprising another gelling agent from the group locust bean, xanthan, or guar gum (p2, lines 45-48, e.g. ‘xanthan gum’, ‘guar gum’). Wiggett et al. also teach about the pH of the composition is between 3.0 to 4.2 (p1, line 64, e.g. ‘pH 3.0 to 4.2).

Wiggett also discloses the available calcium ion can be inherently available from type of fruit which contain high natural calcium, and amount of fruit (p1, col 2, lines 70-90, in line 72, e.g. ‘determined on a trial and experiment basis’ and in line 88, ‘high natural calcium content’) which will contribute the amount of calcium ion in the spreadable food composition as “naturally present calcium.

Regarding claims 1 and 32, Wiggett et al. teach about soluble calcium chloride (p2, lines 56-60, e.g. “calcium chloride) between 20-50 mg of Ca / gm pectin (p1, line 49, 0.5 to 1.0 % pectin and p3 line 14, , e.g. ‘ .8% low methoxyl pectin and p3, line 11, 20-50 mg Ca/g pectin). It is obvious that it meets the claimed ranges of up to about 50

ppm and about 15 ppm to promote gelation. Wiggett et al. also teach about soluble solids content of 40-50% (claim 4) and pH range of the composition is 3.0 to 4.2 (p1, under 'specification', line 64, e.g. pH 3.0-4.2). It is obvious that soluble solids content of 40-50% represents the Brix value in the range of 50 degree -60 degree to meet claimed limitations of brix of about 30 degree to about 60 degree and pH is acidic" in claim 1.

Regarding claim 10, Wiggett et al. disclose the use of 15 % amidated pectin (claim 11), while the present claim 10 requires about 14% pectin.

It is apparent, however, that the instantly claimed amount of about 14% and that taught by Wiggett are so close to each other that the fact pattern is similar to the one in In re Woodruff , 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the amount of 15% disclosed by Wiggett and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the amount of about 14% disclosed in the present claim 10 is but an obvious variant of the amounts disclosed in Wiggett, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Regarding claims 15, 26, “Apricot Glaze” teaches about a protective coating which “Glaze” (line 5). It is obvious that the brushing the glaze makes a protective coating due to formation of gel.

“Apricot Glaze” does not teach about the formation of gel.

Wiggett et al. teach about the spreadable fruit composition and gum as the thickener (p2, lines 45-62, e.g. in line 43, ‘gelling agent” and in line 59, e.g. “spreadable fruit composition’). It is obvious that the glaze is easily cut-able due to formation of a thickness due to gelling agent and thus no flowing down problems will arise which meet claims 15 and 26. The motivation is to control the acidity and degree of gelation in relation to the spreadable fruit composition with the addition of soluble calcium salt to promote gelation (page 2, col 1, lines 55-59) and also to obtain good gel and good resistance to syneresis (p2, col 2, lines 103-105, e.g. ' resistance to syneresis').

Given that "Apricot Glaze” in view of Wiggett discloses glaze as presently claimed, it is clear that the glaze would intrinsically jellify in times as presently claimed.

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Wiggett into **Forkner et al.** One of ordinary skill in the art would have been motivated to use low methoxylated-amidated pectin which has the property of more calcium reactivity to obtain good gel and to control the acidity and degree of gelation in relation to the spreadable fruit composition with the addition of soluble calcium salt to promote gelation (page 2, col 1, lines 55-59) and also to obtain good gel and good resistance to syneresis (p2, col 2, lines 103-105, e.g. ' resistance to syneresis').

7. Claim 5 is rejected under 35 U.S.C. 103 (a) as being unpatentable over **Forkner et al. USPN 2878127** in view of Wiggett et al. as applied to claim 1, and further in view of Holscher et al., USPN 4,762,721.

8. Regarding claim 5, **Forkner et al.** in view of Wiggett et al. does not teach about thixotropic property.

Holscher et al. teach about thixotropic property of a glazing composition with the addition of xanthan gum (col 1, lines 55-67, e.g. 'thixotropic property').

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Holscher et al. into **Forkner et al.** in view of Wiggett et al. One of ordinary skill in the art would have been motivated to use xanthan gum as gelling agent which will function as thixotropic agent and will prevent the glaze from dripping off when used on curved surface (Col 1, lines 65-68, e.g. ' thixotropic properties').

9. Claims 1, 7-13,15, 18-22, 25- 27, and 29 -38 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Feller, USPN 5976586, and in view of Wiggett et al.(GB 2078082).

10. Regarding claims 1, 7- 13, 15, 18-22, 25, 26, 27, and 29 -38, Feller teaches about glazed composition of baked goods (col 2, lines 11, 29, 39, e.g. 'glaze' and 46,

e.g. 'baked goods) wherein the glaze comprises methoxylated pectin, gum and other ingredients (col 3, lines 57-67). Feller et al. also teach that the food glaze composition is made from a variety of fruit tissues, seeds etc. which contain natural gums (col 3, lines 40-45), which include low or high methoxy pectins (col 3, line 65) and that the glaze is used on food items such as bakery products , e.g. Danish pastries, puff pastry etc. ready-to-use, condensed or dry formulations by spray-on or brush- on applications (col 1, lines 54-67; Col 6, Examples 1-2, lines 40-45). It is obvious that ready-to-use condensed brush –on application prior to or after baking, as well as to baked product prior to freezing (col 1, lines 63-67) meets the claimed element liquid, semi-liquid application at below 35 degree C. It is also obvious that 35 degree C or below meet the claimed limitation of "cold gelling" as presently claimed.

Feller also teaches about a coating which "Glaze" (Abstract; claims 8, 9).

Feller also teaches about the glaze composition further comprising another gelling agent from the group locust bean, xanthan, or guar gum (Col 3, lines 57-67, e.g. 'xanthan gum', 'guar gum'). Feller also teaches about the pH of the composition is less than 4.5 (Col 4, line 65).

Feller, however, does not teach about glaze composition obtained by (a) solubilizing calcium (II), reactive low methoxylated –amidated pectin (b) Brix and (c) although Feller teaches that the ready-to-use glaze composition can be added on various food items including ' **fruit',** but does not teach fruit as a source of "naturally present Calcium".

With respect to (a), Wiggett et al. teach about a fruit composition comprising 10-50% fruit (abstract), soluble calcium chloride to promote gelation (p2, lines 56-60), and gelling agent that is low methoxy-amidated pectin with degree of esterification of 25-40% and degree of amidation of 15-30% (claim 11).

With respect to (b), Wiggett et al. also teach about soluble solids content of 40-50% (claim 4).

It is obvious that soluble solids content of 40-50% represents the Brix value in the range of 50 degree -60 degree.

With respect to (c), Wiggett discloses the available calcium ion can be inherently available from type of fruit which contain high natural calcium, and amount of fruit (p1, col 2, lines 70-90, in line 72, e.g. 'determined on a trial and experiment basis' and in line 88, 'high natural calcium content') which will contribute the amount of calcium ion in the spreadable food composition as "naturally present calcium".

Wiggett et al. teach about soluble calcium chloride (p2, lines 56-60, e.g. "calcium chloride) between 20-50 mg of Ca / gm pectin (p1, line 49, 0.5 to 1.0 % pectin and p3 line 14, , e.g. ' 0 .8% low methoxyl pectin and p3, line 11, 20-50 mg Ca/g pectin). It is obvious that it meets the claimed ranges of up to about 50 ppm and about 15 ppm to promote gelation.

Regarding claim 10, Wiggett et al. disclose the use of 15 % amidated pectin (claim 11), while the present claim 10 requires about 14% pectin.

It is apparent, however, that the instantly claimed amount of about 14% and that taught by Wiggett are so close to each other that the fact pattern is similar to the one in

In re Woodruff , 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the amount of 15% disclosed by Wiggett and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the amount of about 14% disclosed in the present claim 10 is but an obvious variant of the amounts disclosed in Wiggett, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Wiggett et al. teach about the spreadable fruit composition and gum as the thickener (p2, lines 45-62, e.g. in line 43, 'gelling agent" and in line 59, e.g. "spreadable fruit composition'). Wiggett et al. also teach about soluble solids content of 40-50% (claim 4). It is obvious that soluble solids content of 40-50% represents the Brix value in the range of 50 degree -60 degree. It is also obvious that the glaze is easily cut-able due to formation of a thickness due to gelling agent and thus no flowing down problems will arise which meet claims 15 and 26. The motivation is to control the acidity and degree of gelation in relation to the spreadable fruit composition with the addition of calcium ions from 'natural sources' to promote gelation (page 2, col 1, lines 55-59) and

also to obtain good gel and good resistance to syneresis (p2, col 2, and lines 103-105, e.g. ‘resistance to syneresis').

Given that "Apricot Glaze” in view of Wiggett discloses glaze as presently claimed, it is clear that the glaze would intrinsically jellify in times as presently claimed.

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Wiggett, into Feller. One of ordinary skill in the art would have been motivated to add calcium ions from ‘natural sources’ into low methoxylated pectin to promote gelation (page 2, col 1, and lines 55-59) and also to obtain good gel and good resistance to syneresis (p2, col 2, and lines 103-105, e.g. ‘resistance to syneresis')

11. Claim 5 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Feller, USPN 5976586 in view of Wiggett et al. as applied to claim 1, and further in view of Holscher et al., USPN 4,762,721.

12. Regarding claim 5, Feller, USPN 5976586 in view of Wiggett et al. does not teach about thixotropic property.

Holscher et al. teach about thixotropic property of a glazing composition with the addition of xanthan gum (col 1, lines 55-67, e.g. ‘thixotropic property’).

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Holscher et al. into Feller in view of Wiggett et al. One of ordinary skill in the art would have been motivated to use xanthan gum as

gelling agent which will function as thixotropic agent and will prevent the glaze from dripping off when used on curved surface (Col 1, lines 65-68, e.g. ' thixotropic properties').

13. Claim 14 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Feller, USPN 5976586 in view of Wiggett et al.(GB 2078082) as applied to claim 1, and further in view of Smadar et al., USPN 3650766.

14. Regarding claim 14, Feller, USPN 5976586, in view of NPL "Apricot Glaze", and in view of Wiggett et al. do not teach about the firmness of the gelling glaze.

Smadar teaches about the 'firmness of the gelling glaze' with the use of calcium chloride in the composition having methoxy pectin to form a gel like skin coating skin around the extruded product (col 2, line 73, e.g. ' methoxy pectin, col 3, lines 11-12, e.g. ' the strength of the skin can be controlled by varying the concentration of alkaline earth salts' and line 23, ' alkaline earth metal ions' preferably calcium ions') which causes an impervious gel skin structure to immediately form on outer surfaces of the shaped foods (col 3, lines 50-55, e.g. ' 'contacted with a source of alkaline earth ions'). Thus it is obvious that the extra calcium source may be considered prior to application and appropriate for jellification after application.

Smadar also teaches that by controlling the ion concentration and/or exposure time, varying skin strength can be achieved (Col 3 lines 10-20, e.g. 'The strength of the skin can also be controlled by varying ion concentration, time of exposure etc.). It is thus

obvious that the firmness of the skin in the form of gelling glaze may be achieved by multiplication of factor 2 by varying calcium ion concentration, exposure time etc. Therefore, it would have been obvious to one of ordinary skill to choose amounts of calcium ions, including that presently claimed, such that there is no jellification before application to food but the glaze does jellify when applied onto food product that provides the desired strength. The motivation is the shapes retaining outer structure or skin on the food stuffs provide heat irreversibility, and relatively impervious gel-like structure (col 2, lines 61-66).

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Smadar, Wiggett, into Feller. One of ordinary skill in the art would have been motivated to make firm gelling glaze in order to retain the shape of the outer structure or skin on the food stuffs provide heat irreversibility, and relatively impervious gel-like structure (col 2, lines 61-66).

15. Claim 14 is rejected under 35 U.S.C. 103 (a) as being unpatentable over **Forkner et al.** in view of Wiggett et al.(GB 2078082) as applied to claim 1, and further in view of Smadar et al., USPN 3650766.

16. Regarding claim 14, **Forkner et al.** in view of Wiggett et al. do not teach about the firmness of the gelling glaze.

Smadar teaches about the ‘firmness of the gelling glaze’ with the use of calcium chloride in the composition having methoxy pectin to form a gel like skin coating skin

around the extruded product (col 2, line 73, e.g. ‘ methoxy pectin, col 3, lines 11-12, e.g. ‘ the strength of the skin can be controlled by varying the concentration of alkaline earth salts’ and line 23, ‘ alkaline earth metal ions’ preferably calcium ions’) which causes an impervious gel skin structure to immediately form on outer surfaces of the shaped foods (col 3, lines 50-55, e.g. ' 'contacted with a source of alkaline earth ions'). Thus it is obvious that the extra calcium source may be considered prior to application and appropriate for jellification after application.

Smadar also teaches that by controlling the ion concentration and/or exposure time, varying skin strength can be achieved (Col 3 lines 10-20, e.g. ‘The strength of the skin can also be controlled by varying ion concentration, time of exposure etc.). It is thus obvious that the firmness of the skin in the form of gelling glaze may be achieved by multiplication of factor 2 by varying calcium ion concentration, exposure time etc. Therefore, it would have been obvious to one of ordinary skill to choose amounts of calcium ions, including that presently claimed, such that there is no jellification before application to food but the glaze does jellify when applied onto food product that provides the desired strength. The motivation is the shape retaining outer structure or skin on the food stuffs provides heat irreversibility, and relatively impervious gel-like structure (col 2, lines 61-66).

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Smadar, Wiggett, into **Forkner et al.** One of ordinary skill in the art would have been motivated to make firm gelling glaze in order to

retain the shape of the outer structure or skin on the food stuffs provide heat irreversibility, and relatively impervious gel-like structure (col 2, lines 61-66).

Response to Argument

17. Applicants argue on page 9 that the presently claimed invention provides ready-to-use cold gelling pastry glaze and therefore, accordingly, the combination of "Apricot Glaze" and Wiggett et al. does not teach or suggest the claimed limitation of "without a heating step" in the amended claim 1. Therefore, Forkner et al. USPN 2878127 in view of Wiggett et al. (GB 2078082) is used to address the amended claim limitations in claim 1.

18. Applicants argue on page 10 last paragraphs that Feller and Wiggett et al. does not teach or suggest “glaze composition which jellify” and Wiggett already has sufficient calcium to cause gelation and would not utilize calcium present in a food product itself”. However, it is obvious that pectin derivatives including low methoxy l pectin in the composition as taught by Feller et al., when applied to food item e.g. fruit (col 6 lines 44-45), intrinsically jellifies from the naturally present calcium in fruit as taught by Wiggett et al. who discloses the available calcium ion can be inherently available from type of fruit which contain high natural calcium, and amount of fruit (p1, col 2, lines 70-90, in line 72, e.g. ‘determined on a trial and experiment basis’ and in line 88, ‘high

natural calcium content') which will contribute the amount of calcium ion in the spreadable food composition as "naturally present calcium".

Wiggett et al. is used as secondary prior art to teach the degree of amidation and "naturally present calcium".

However, note that while Wiggett et al. do not disclose all the features of the present claimed invention, Wiggett et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely **degree of amidation and** "naturally present calcium", and in combination with the primary reference, discloses the presently claimed invention.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this non- final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is

not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Bhaskar Mukhopadhyay whose telephone number is (571) - 270- 1139.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Humera Sheikh can be reached on (571)-272- 0604. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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